



A STUDY ON SMART APPLICATIONS OF IOT

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ABSTRACT

We are entering a new era of computing technology .G Internet of Things (IoT). IoT is a kind of "universal global neural network" in the cloud that connects different things. IoT is an intelligently connected device and system that includes smart machines for interacting with and interacting with other machines, environments, objects and infrastructure, and radio frequency identification (RFID) and sensor network technologies will rise to meet this new challenge. As a result, a large amount of data is being generated, stored, and that data is being processed into useful actions that can "command and control" things to make our lives easier and safer and reduce the impact on the environment. Every organization, such as companies and civic organizations, needs up-to-date information about people. In this regard, most organizations use either Websites, emails or notification boards. However, in most countries Internet access is available to people on systems and their mobile devices, making the transfer of information over the Internet much easier and less expensive.

KEYWORDS: IOT, Smart Applications, Internet of Things.

1. INTRODUCTION:

The term Internet Things (IoT) represents the general concept of the ability of network devices to understand and collect data from around the world, and it distributes data over the Internet where it can be processed and used for a variety of interesting purposes. IoT includes smart machines interacting and interacting with other machines, of objects, environment and infrastructure. Now a day everyone is connected to each other using a lot of communication methods. While the most popular communication method is the Internet, in other words we can say that the Internet that connects people has been an essential idea of Internet Things (IoT) for nearly two decades, and its great estimated impact has attracted many researchers and businesses. Improving our daily life and society. When things like home appliances are connected to the network, they can work together to provide an ideal service, not as a collection of independently functioning devices. This is useful for many real-world applications and services, and for example, one will apply it to make smart living; Windows can be closed automatically when the air conditioner is on, or can be opened for oxygen while the gas oven is on. The idea of IoT is particularly valuable or disabled, because IoT technologies can support large-scale human activities such as building or society, as devices can mutually cooperate to function as an overall system.

2. LITERATURE REVIEW:

Every organization always has an information desk that provides information, advertising messages and many notifications to their customers and employees. The problem is that it needs some staff who are dedicated to that purpose and must have up-to-date information about the advertising and organization of offers. Due to IoT we are seeing a lot of smart devices around us. Many people are of the opinion that cities and the world itself will be laced with sensations and expressions, many are included in the "things" known as the smart world. Similar work has been done by many people around the world.

In the literature, IoT refers to intelligently connected devices and systems for collecting data from embedded sensors and actuators and other physiological objects. IoT is expected to expand rapidly in the coming years as a new dimension of services that improve the quality of life of customers and improve the productivity of enterprises, unlocking opportunity. Mobile networks are already delivering connectivity to a wide range of devices at this time, which can enable the development of new services and applications. This new wave of connectivity is moving beyond tablets and laptops; For connected cars and buildings; Smart meters and traffic control; With the potential to connect almost anyone and anyone intelligently. GSMA calls this the "Connected Life".

Advantages:

- Students or employee easily get important notice or information by message any time 24x7.
- Within a seconds organization can change notice or information by sending SMS only.
- Admin can change the display message or notice from any place or anywhere.

Disadvantage:

- If anybody wants information they have to do message and for every new

information they have to send message again and again to the system.

Advantages:

- Within a seconds organization can change notice or information by sending SMS only.
- User can change the display message or notice from any place or anywhere and anytime.

Disadvantages:

- For SMS we have to pay or we have to give extra charges to organization.
- Security and network issue may occur sometimes..

GSM Authors with an interesting way to report messages to people using wireless electronic display boards synchronized using technology. This will help us pass any message immediately and without delay by sending an SMS which is better and more reliable than the old traditional way of pasting a message on the notice board. This proposed technology can be used in many public places, malls, or large buildings to enhance security and raise awareness of emergency situations and to avoid many dangers. Different AT commands are used to display the message on the display board. GSM technology is used to control the display board and to convey information through a message sent by an authorized user.

The radical evolution of the current Internet system in a network of interconnected objects, which not only gathers information from the environment (sensing) and interacts with the physical world, but also uses existing Internet standards to provide services for data transfer, analysis, applications. And the conversation.

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3. APPLICATIONS:

This system is designed for a shopping complex mall but it can be also used in various organizations like educational Notice board system or at Railway station, Bus stand and Air-port to display the information and notification. In mall it is also used to control the humidity and temperature of mall via central AC by using temperature sensor. In Industrial organization it can be also used. E-display system may be used to display Emergency message in Hospitals. Some areas where IoT frequently used

i. Smart cities:-

To make the city as a smart city to engage with the data exhaust produced from your city and neighborhood.

- Monitoring of parking areas availability in the city.
- Monitoring of vibrations and material conditions in buildings, bridges and historical monuments.
- Detect Android devices, iPhone and in general any device which works with Bluetooth interfaces or WiFi.
- Measurement of the energy radiated by cell stations and Wi-Fi routers.
- Monitoring of vehicles and pedestrian levels to optimize driving and walking routes.
- Detection of rubbish levels in containers to optimize the trash collection routes. Intelligent Highways with warning messages and diversions according to climate conditions and unexpected events like accidents or traffic jams.

ii. Security & Emergencies:-

- **Perimeter Access Control:** Detection and control of people in non authorized and restricted.
- **Liquid Presence:** Liquid detection in data centers, sensitive building grounds and warehouses to prevent breakdowns and corrosion.
- **Radiation Levels:** In nuclear power stations surroundings distributed measurement of radiation levels to generate leakage alerts. Explosive and Hazardous Gases: Detection of gas leakages and levels in industrial environments, surroundings of chemical factories and inside mines.

iii. Smart agriculture:-

- **Wine Quality Enhancing:** Monitoring soil moisture and trunk diameter in vineyards to control the amount of sugar in grapes and grapevine health.
- **Green Houses:** Control micro-climate conditions to maximize the production of fruits and vegetables and its quality.
- **Golf Courses:** Selective irrigation in dry zones to reduce the water resources required in the green.
- **Meteorological Station Network:** Study of weather conditions in fields to forecast ice formation, rain, drought, snow or wind changes.
- **Compost:** Control of humidity and temperature levels in alfalfa, hay, straw, etc. to prevent fungus and other microbial contaminants.

iv. Domestic & Home Automation:-

In home by using the iot system remotely monitor and manage our home appliances and cut down on your monthly bills and resource usage.

- **Energy and Water Use:** Energy and water supply consumption monitoring to obtain advice on how to save cost and resources.
 - **Remote Control Appliances:** Switching on and off remotely appliances to avoid accidents and save energy.
 - **Intrusion Detection Systems:** Detection of windows and doors openings and violations to prevent intruders.
 - **Art and Goods Preservation:** Monitoring of conditions inside museums and art warehouses.
- v. Medical field:-**
- **All Detection:** Assistance for elderly or disabled people living independent.
 - **Medical Fridges:** Monitoring and Control of conditions inside freezers storing medicines, vaccines, and organic elements.
 - **Sportsmen Care:** Vital signs monitoring in high performance centers and fields.
 - **Patients Surveillance:** Monitoring of conditions of patients inside hospitals and in old people's home.
 - **Ultraviolet Radiation:** Measurement of UV sun rays to warn people not to be exposed in certain hours.

vi. Industrial Control:-

- **Machine to Machine Applications:** Machine auto-diagnosis the problem and control.
- **Indoor Air Quality:** Monitoring of oxygen levels and toxic gas inside chemical plants to ensure workers and goods safety.
- **Temperature Monitoring:** Monitor the temperature inside the industry.
- **Ozone Presence:** In food factories monitoring of ozone levels during the drying meat process.
- **Vehicle Auto-diagnosis:** Information collection from Can Bus to send real time alarms to emergencies or provide advice to drivers.

4. CONCLUSION:

The IoT promises to be a step change in individuals' lifestyles and enterprise-productivity. Through a widely distributed, locally intelligent network of smart devices, IoT has the potential to expand and grow basic services in the areas of transportation, logistics, security, utilities, education, healthcare and more, while providing a new ecosystem for application development. A concerted effort to advance an industry driven by a general understanding of the specific nature of technology requires a concerted effort. This market has unique characteristics in terms of service delivery, business and charging models, the capabilities required to provide IoT services and the various demands that these services will place on the mobile network.

It has also begun to connect smart devices (nodes) to the web, albeit at a slower rate. Technology puzzle pieces are coming together to accommodate Internet Thing Things sooner than most people expect. As the Internet of Things did not happen so long ago and was caught like a wildfire, Internet Thing Things touches every aspect of our lives in less than a decade.

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